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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/638,425	08/12/2003	Jesse Zhu	14417	5075
293	7590	11/02/2006	EXAMINER	
Ralph A. Dowell of DOWELL & DOWELL P.C. 2111 Eisenhower Ave Suite 406 Alexandria, VA 22314			GORMAN, DARREN W	
			ART UNIT	PAPER NUMBER
			3752	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/638,425	ZHU ET AL.	
	Examiner Darren W. Gorman	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 September 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 13-47 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-4 is/are rejected.
- 7) Claim(s) 5-12 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 13-47 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 19, 2005.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Talacko, USPN 4,747,546.

Talacko shows a corona discharge apparatus for spraying powders (Note: although Talacko does not expressly use the word “corona” in the patent disclosure, the embodiments of Talacko relied upon by the Examiner for anticipating the limitations of claims 1-4 clearly are corona discharge guns, as concurred repeatedly by Applicant on pages 18-21 of the “Remarks” section of the response filed September 13, 2006). Talacko shows at least one embodiment (see Figures 2 and 3) comprising: a housing (4) having first and second opposing ends, the housing defining a chamber (10 – which includes portions 18, 20, 24 and 26) terminating in an outlet passageway (32) at the first end of the housing; an inlet (28) opening into the chamber for

pneumatically conducting a powder-gas mixture into the chamber (see column 3, lines 54-55); a high voltage pin electrode (82 or 91) positioned in the chamber and spaced upstream of the outlet passageway, the high voltage pin electrode having a first surface area; and a ground surface electrode (6) positioned in the chamber and spaced upstream from the high voltage pin electrode, the ground surface electrode having a second conducting surface area that is clearly shown to be larger than the first surface area of the high voltage pin electrode to give a pin-to-surface electrode configuration (see again Figures 2 and 3). With respect to the recitation that the second conducting surface area is “sufficiently larger...such that when a high voltage is applied to the high voltage pin electrode, an electrical field produced in a vicinity of the ground surface electrode is sufficiently low to prevent arc discharging occurring in the vicinity of the ground surface electrode in the chamber”, it can reasonably be assumed that arc discharging would also be prevented in the same “vicinity of the ground electrode” region of the apparatus shown in at least Figures 2 and 3 of Talacko, even though not expressly discussed in the disclosure of Talacko, since the structure as recited in claim 1 is anticipated.

As to claim 2, Talacko shows a means for supplying a gas (22) toward the high voltage pin electrode (see Figures 2 and 3). As to the functional recitations “cleaning gas” and “to reduce powder deposits on the high voltage pin electrode”, the gas entering the powder gun through inlet (22) and flowing through the chamber (10) would inherently function to assist in preventing adherence of powder on the high voltage pin electrode.

As to claim 3, Talacko shows the inlet (28) for conducting the powder-gas mixture into the chamber as being located at the second end of the housing (see Figures 2 and 3).

As to claim 4, Talacko shows the apparatus wherein the high voltage pin electrode includes at least one charging pin (82 or 91) connected to a conductor (74) located in an electrically insulated tube (72) disposed along an axis of the housing (see column 4, lines 12-15), the conductor being connectable to a power supply (78) for applying high voltages to the at least one charging pin (see Figures 2 and 3).

Allowable Subject Matter

4. Claims 5-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicants' arguments, see pages 14-16 of the "Remarks" section of the response filed September 13, 2006, with respect to the objection to the specification under 35 U.S.C. 132(a) as introducing new matter into the disclosure, have been fully considered and are persuasive. The objection to the specification has been withdrawn.

It should be noted, in view of the aforementioned comments/arguments made by Applicants, the term "ground surface electrode" is understood by the Examiner to mean nothing more than "a ground electrode with a large surface area" since Applicants' argument is that this directly quoted passage (see specification page 12, lines 6-7) clearly provides "inherent" disclosure for the now expressly disclosed and claimed "ground surface electrode". In other words, for the purpose of examination, the term "ground surface electrode" will be understood as

a grounded electrode having a larger surface area than the surface area of a high-voltage pin-type electrode.

6. Applicants' arguments, see pages 16-18 of the "Remarks" section of the response filed September 13, 2006, with respect to rejection of claims 1-12 under 35 U.S.C. 112, first paragraph, have been fully considered and are persuasive. The aforementioned rejection of claims 1-12 has been withdrawn. Applicants' attention is directed to paragraph 5 above with respect to Examiner's interpretation of the claim term "ground surface electrode".

7. Applicants' arguments, see pages 18-21 of the "Remarks" section of the response filed September 13, 2006, with respect to the rejection of claims 1-4 under 35 U.S.C. 102(b) as being anticipated by Talacko, US Patent No. 4,747,546, have been fully considered but they are not persuasive.

Applicants' first argument (see page 18) asserts that there is "no teaching whatsoever in Talacko to support this assertion by the Examiner that there is any electric field established between the high voltage electrodes 81 (Figure 2) or 92 (Figure 3) and ground electrode 6". Such an argument is not commensurate with the claim language. Applicants' claim requires, "an electrical field produced in a vicinity of the ground surface electrode is sufficiently low to prevent arc discharging occurring in the vicinity of the ground surface electrode in the chamber". Applicants' arguments on page 19 further assert that, "upon review of Talacko, the role of the ground electrode 6 is clearly only to discharge electric charges which collect on the channel wall 44". Since, as Applicants' admit, the channel wall (44) collects electrical charges, and since the

channel wall (44) clearly originates in and extends from “a vicinity of the ground surface electrode” (see Figures 2 and 3), then it is clear that an electrical field is “produced in a vicinity of the ground surface electrode”.

Applicants further argue on page 19 that “Talacko teaches that the discharge electrode 6 is not necessary for the corona charging gun embodiments of Figures 2 and 3”. Again, such an argument is not commensurate with the claim language.

Applicants’ final arguments (see pages 20-21) assert that Applicants’ apparatus differs from that disclosed and shown by Talacko because, “ground electrode 6 plays no role in charging the powder particles in the corona discharge embodiments in Figures 2 and 3”. First, such an argument is, again, not commensurate with the claim language. Second, with reference to the instant apparatus, Applicants’ specification (see page 11, lines 18-20) states, “when powder passes through the cylindrical electrode 10, it is in a neutral state because it has not passed the charging zone and thus the powder will not cling to the ground electrode 10”. As further stated in Applicant’s specification (see page 11, lines 11-17), “with the electrode embodiments disclosed herein, an electrical field will be established between the down-stream high-voltage charging electrode 24 and the ground electrode 10 and a charging zone, primarily surrounding the high voltage electrode 24, will be formed because of the more concentrated electrical field lines in this region due to a much smaller surface area of the high voltage electrode compared to the ground electrode”. Thus, the ground electrode of the instant apparatus also plays no direct part in charging the powder.

In conclusion, since the apparatus of Talacko clearly shows a ground electrode located upstream of a high-voltage pin electrode, wherein the ground electrode has a significantly larger

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surface area when compared to the surface area of the high-voltage pin electrode, then it is reasonable for the Examiner to state that the apparatus of Talacko produces an electrical field in a vicinity of the ground electrode that is sufficiently low to prevent arc discharging occurring in the vicinity of the ground electrode, since the structural limitations recited in claims 1-4 are clearly anticipated.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W. Gorman whose telephone number is 571-272-4901. The examiner can normally be reached on M-F 7:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on 571-272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darren W Gorman
Examiner
Art Unit 3752

DWG 10/25/06
DWG
October 25, 2006

Kevin Shaver
KEVIN SHAVER
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